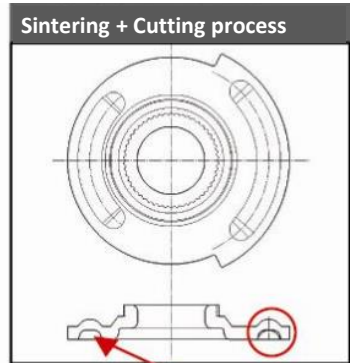


**Achieved 25% cost reduction, and made irregular crush mold possible!**

**Conventional product**

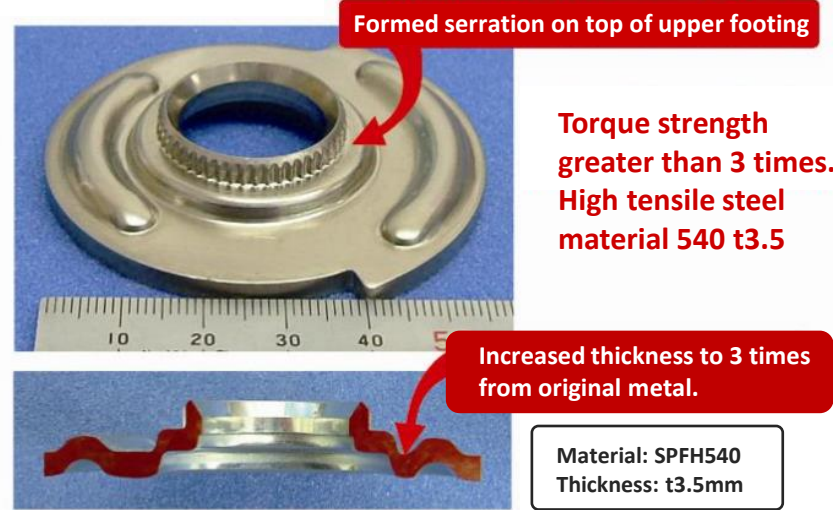


- Customer challenges**
- Serration products
  - Shortage of torque strength
  - Steel ball groove's wear resistance
  - Insufficient strength

After sintering process, "Steel ball groove" cutting process in 2 places.

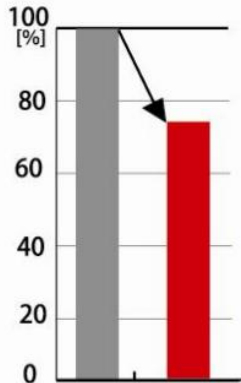
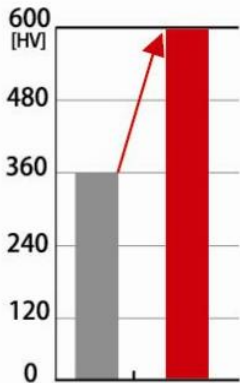
**[KIYA's new process method]**

Resolved issue by using **Cold forging progressive stamping + heat treatment**



Strength 23%(HV140)

Cost minus 25%



Conventional KIYA's process      Conventional KIYA's process

**Customer Benefits !**

- Achieved **25% cost reduction** by changing method conversion to CFP method! Product **torque strength is 3 times greater** compared to sintering processed product. Sintering metal components 700kgf/cm (broken), compared to Kiya's CFP method product, 2200kgf/cm (without damage).
- **Wear resistance increased to 23% (strength)** by using SPFH540 material.
- Thickness was raised from 3.5mm to 11mm (**3 times the strength of metal thickness**)
- Attached **4mm serration** on top of upper footing.